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Australian/New Zealand Standard™

Exposure to electric or magnetic fields in the low and intermediate frequency range — Methods for calculating the current density and internal electric field induced in the human body

Part 1: General



AS/NZS IEC 62226.1:2021

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- Australian Centre for Radiofrequency Bioeffects Research
- Australian Industry Group
- Australian Mobile Telecommunications Association
- Australian Radiation Protection and Nuclear Safety Agency
- Commercial Radio Australia
- Communications, Electrical and Plumbing Union —Electrical Division
- Department of Defence (Australian Government)
- Electrical Engineers Association of NZ
- Engineers Australia
- Ministry of Health (NZ)
- National Measurement Institute
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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TE-007, Human Exposure to Electromagnetic Fields.

The objective of this document is to provide means for demonstrating compliance with the basic restrictions on human exposure to low and intermediate frequency electric and magnetic fields specified in exposure standards or guidelines such as those produced by IEEE and ICNIRP.

The object of this series of Standards is—

- (a) to propose a more realistic approach to the modelling of the human exposure to low frequency electric and magnetic fields, using a set of models of growing complexity for the field emission source, or the human body or both; and
- (b) to propose standardised values for the electrical parameters of organs in the human body: electrical conductivity and permittivity and their variation with the frequency.

This document does not aim at replacing the definitions and procedures specified in exposure standards or guidelines, such as those produced by IEEE or ICNIRP, but aims at providing additional procedures with a view to allowing compliance assessment with these documents.

This document provides means for demonstrating compliance with the basic restrictions without having to go to the sophisticated models. Nevertheless, when the exposure conditions are well characterized (such as in product standards, for example) and when results from such models are available, they can be used for demonstrating compliance with EMF standards or guidelines.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

EXPOSURE TO ELECTRIC OR MAGNETIC FIELDS IN THE LOW AND INTERMEDIATE FREQUENCY RANGE – METHODS FOR CALCULATING THE CURRENT DENSITY AND INTERNAL ELECTRIC FIELD INDUCED IN THE HUMAN BODY –

Part 1: General

FOREWORD

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The text of this standard is based on the following documents:

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Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.